WEST Search History

DATE: Friday, June 27, 2003

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB; PLUR=YES; OP=ADJ			
L12	L9 and l6	14	L12
L11	L10 and l6	14	L11
L10	L8 and (amino acid or lysine)	16	L10
L9	L8 and (protein or polypeptide or peptide)	16	L9
L8	L7 and Escherichia	18	L8
L7	RMF or Ribosome modulation factor	204	L7
L6	L5 or l4 or l3 or l2 or l1	26972	L6
L5	(((536/23.1)!.CCLS.))	8988	L5
L4	(((530/350)!.CCLS.))	10719	L4
L3	(((435/252.1)!.CCLS.))	1508	L3
L2	(((435/115)!.CCLS.))	313	L2
L1	((435/69.1)!.CCLS.)	13269	L1

END OF SEARCH HISTORY

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Search Results - Record(s) 1 through 18 of 18 returned.

☐ 1. Document ID: US 20030113742 A1

L8: Entry 1 of 18 File: PGPB Jun 19, 2003

PGPUB-DOCUMENT-NUMBER: 20030113742
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030113742 A1

TITLE: Methods and compositions for the modulation of biofilm formation

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

☐ 2. Document ID: US 20030105283 A1

L8: Entry 2 of 18 File: PGPB Jun 5, 2003

PGPUB-DOCUMENT-NUMBER: 20030105283
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030105283 A1

TITLE: Antigenic protein originating in malassezia

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

☐ 3. Document ID: US 20030039632 A1

L8: Entry 3 of 18 File: PGPB Feb 27, 2003

PGPUB-DOCUMENT-NUMBER: 20030039632
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030039632 A1

TITLE: Novel bacteriocins, transport and vector system and method of use thereof

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

☐ 4. Document ID: US 20030031681 A1

L8: Entry 4 of 18 File: PGPB Feb 13, 2003

PGPUB-DOCUMENT-NUMBER: 20030031681

PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030031681 A1

TITLE: Combined growth factor-deleted and thymidine kinase-deleted vaccinia virus vector

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc
Image

☐ 5. Document ID: US 20020155556 A1

L8: Entry 5 of 18 File: PGPB Oct 24, 2002

PGPUB-DOCUMENT-NUMBER: 20020155556
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020155556 A1

TITLE: Method of producing target substance by fermentation

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc
Image

☐ 6. Document ID: US 20020110890 A1

L8: Entry 6 of 18 File: PGPB Aug 15, 2002

PGPUB-DOCUMENT-NUMBER: 20020110890
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020110890 A1

TITLE: Use of the regulatory subunit of the cAMP dependent protein kinase (PKA) from dictyostelium for cAMP measurements

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc
Image

☐ 7. Document ID: US 20020025364 A1

L8: Entry 7 of 18 File: PGPB Feb 28, 2002

PGPUB-DOCUMENT-NUMBER: 20020025364
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020025364 A1

TITLE: Food disinfection using ozone

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc
Image

☐ 8. Document ID: US 6573059 B1

L8: Entry 8 of 18 File: USPT Jun 3, 2003

US-PAT-NO: 6573059
DOCUMENT-IDENTIFIER: US 6573059 B1

TITLE: Use of the regulatory subunit of the camp dependent protein kinase (PKA) from dictyostelium for camp measurements

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 9. Document ID: US 6551795 B1

L8: Entry 9 of 18 File: USPT Apr 22, 2003

US-PAT-NO: 6551795
DOCUMENT-IDENTIFIER: US 6551795 B1

TITLE: Nucleic acid and amino acid sequences relating to pseudomonas aeruginosa for diagnostics and therapeutics

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 10. Document ID: US 6528289 B1

L8: Entry 10 of 18 File: USPT Mar 4, 2003

US-PAT-NO: 6528289
DOCUMENT-IDENTIFIER: US 6528289 B1

TITLE: Nucleotide sequence of the Haemophilus influenzae Rd genome, fragments thereof, and uses thereof

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 11. Document ID: US 6485769 B2

L8: Entry 11 of 18 File: USPT Nov 26, 2002

US-PAT-NO: 6485769
DOCUMENT-IDENTIFIER: US 6485769 B2

TITLE: Food disinfection using ozone

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 12. Document ID: US 6482607 B1

L8: Entry 12 of 18 File: USPT Nov 19, 2002

US-PAT-NO: 6482607
DOCUMENT-IDENTIFIER: US 6482607 B1

TITLE: Expression vector for use in a one-step purification protocol

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc
Image

☐ 13. Document ID: US 6432407 B1

L8: Entry 13 of 18 File: USPT Aug 13, 2002

US-PAT-NO: 6432407
DOCUMENT-IDENTIFIER: US 6432407 B1

TITLE: Antigenic protein originating in malassezia

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc
Image

☐ 14. Document ID: US 6403082 B1

L8: Entry 14 of 18 File: USPT Jun 11, 2002

US-PAT-NO: 6403082
DOCUMENT-IDENTIFIER: US 6403082 B1

TITLE: Bacteriocins, transport and vector system and method of use thereof

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc
Image

☐ 15. Document ID: US 6355450 B1

L8: Entry 15 of 18 File: USPT Mar 12, 2002

US-PAT-NO: 6355450
DOCUMENT-IDENTIFIER: US 6355450 B1

TITLE: Computer readable genomic sequence of Haemophilus influenzae Rd, fragments thereof, and uses thereof

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc
Image

☐ 16. Document ID: US 6153408 A

L8: Entry 16 of 18 File: USPT Nov 28, 2000

US-PAT-NO: 6153408
DOCUMENT-IDENTIFIER: US 6153408 A

TITLE: Altered major histocompatibility complex (MHC) determinant and methods of using the determinant

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 17. Document ID: US 5741675 A

L8: Entry 17 of 18 File: USPT Apr 21, 1998

US-PAT-NO: 5741675
DOCUMENT-IDENTIFIER: US 5741675 A

TITLE: Regulatory nucleic acid sequences and uses in actinomycetes

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 18. Document ID: US 5736358 A

L8: Entry 18 of 18 File: USPT Apr 7, 1998

US-PAT-NO: 5736358
DOCUMENT-IDENTIFIER: US 5736358 A

TITLE: Dictyostelid expression vector and method for expressing a desired protein

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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Terms	Documents
L7 and Escherichia	18

Display Format: - Change Format

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=> d his

     (FILE 'HOME' ENTERED AT 13:03:01 ON 27 JUN 2003)

     FILE 'HCAPLUS' ENTERED AT 13:03:08 ON 27 JUN 2003
L1           363 S RMF OR RIBOSOME MODULATION FACTOR
L2            25 S L1 (L) ESCHERICHIA
L3            17 S L2 AND PD<20001222
L4            15 S L3 AND PROTEIN
L5             1 S L3 AND LYSINE
L6             1 S L3 AND PREP/RL
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=> d iall

L6 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:317577 HCAPLUS
DOCUMENT NUMBER: 125:8555
TITLE: Genetic manipulation of stationary-phase genes to enhance recombinant protein production in Escherichia coli
AUTHOR(S): Chou, Chih-Hsiung; Bennett, George N.; San, Ka-Yiu
CORPORATE SOURCE: Dep. Chem. Eng., Dep. Biochem., Cell Biol. Inst. Biosci., Bioeng., Rice Univ., Houston, TX, 77251-1892, USA
SOURCE: Biotechnology and Bioengineering (1996), 50(6), 636-642
CODEN: BIBIAU; ISSN: 0006-3592
PUBLISHER: Wiley
DOCUMENT TYPE: Journal
LANGUAGE: English
CLASSIFICATION: 16-4 (Fermentation and Bioindustrial Chemistry)
ABSTRACT:
Genetic manipulation of the host strain, by which cell physiol. could be modulated, was exploited to enhance recombinant protein prodn. in ***Escherichia*** coli. The effects of an inactivated stationary-phase gene (**rmf** or katF) on recombinant protein prodn. in strains with two different expression systems (the pH-inducible and the lac promoters) were investigated. An improvement of recombinant protein prodn. in the katF mutant at low growth rates was obsd. for both expression systems. A 4-fold and a 30% increase in the volumetric recombinant protein activity were obsd. for the pH-inducible and the lac promoter system, resp. The effect of the **rmf** mutation, on the other hand, depends on the expression system. A 2-fold increase in the volumetric recombinant protein activity was found for the pH-inducible promoter system, but there was no improvement for the lac promoter system. Improvement in culture performance for slow-growing cultures may have an impact on the design strategy of the host/vector system used in fed-batch cultures, where the specific growth rate is usually slow. The information may also be useful for developing optimal host/vector gene expression systems for recombinant protein prodn.

SUPPL. TERM: Escherichia recombinant protein prodn genetic engineering
INDEX TERM: Escherichia coli
Genetic engineering
(genetic manipulation of stationary-phase genes to enhance recombinant protein prodn. in Escherichia coli)
INDEX TERM: Proteins, preparation
ROLE: BMF (Bioindustrial manufacture); BIOL (Biological study); **PREP (Preparation)**
(genetic manipulation of stationary-phase genes to enhance recombinant protein prodn. in Escherichia coli)
INDEX TERM: Gene, microbial
ROLE: BSU (Biological study, unclassified); BIOL (Biological study)
(katF, genetic manipulation of stationary-phase genes to enhance recombinant protein prodn. in Escherichia coli)
INDEX TERM: Gene, microbial
ROLE: BSU (Biological study, unclassified); BIOL (Biological study)
(**rmf**, genetic manipulation of stationary-phase genes to enhance recombinant protein prodn. in **Escherichia** coli)

L3 ANSWER 1 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:150813 HCAPLUS
DOCUMENT NUMBER: 134:322134
TITLE: Two proteins, YfiA and YhbH, associated with resting ribosomes in stationary phase Escherichia coli
AUTHOR(S): Maki, Yasushi; Yoshida, Hideji; Wada, Akira
CORPORATE SOURCE: Japan Science and Technology Corporation, Saitama, 332-0012, Japan
SOURCE: Genes to Cells (2000), 5(12), 965-974
CODEN: GECEFL; ISSN: 1356-9597
PUBLISHER: Blackwell Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Background: Ribosomes in **Escherichia** coli change their compn. and conformation in the stationary phase. **Ribosome modulation factor** (**RMF**) and ribosomal protein S22 are known to be assocd. with stationary phase ribosomes. **RMF** assocn. causes the loss of translational activity and the dimerization of 70S ribosomes into 100S ribosomes, which may increase cell survival in the stationary phase. Results: Two weakly acidic proteins having related amino acid sequences were found to be assocd. with E. coli ribosomes in the stationary phase. These proteins are the products of ORFs named yfiA and yhbH. The sum of the copy nos. of their product proteins, YfiA and YhbH, in the ribosomal particles was low in the log phase, but increased to nearly one in the stationary phase. YfiA was found in the 70S ribosomal fraction rather than the 100S. On the other hand, YhbH was detected exclusively in the 100S ribosomal fraction. When the stationary phase cells were transferred to fresh medium, YfiA and YhbH were found in the 70S ribosomal fraction, but not in the polysome fraction. Conclusions: Two proteins, YfiA and YhbH, assocd. with E. coli ribosomes were found to accumulate in the stationary phase, leading to the formation of several types of ribosomes. They are not likely to have roles in the elongation step of the translation in log phase cells, but are likely to be involved in the stabilization and preservation of ribosomes in the stationary phase, which might be necessary for cell survival.
REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:633135 HCAPLUS
DOCUMENT NUMBER: 133:319355
TITLE: Two types of localization of the DNA-binding proteins within the Escherichia coli nucleoid
AUTHOR(S): Azam, Talukder Ali; Hiraga, Sota; Ishihama, Akira
CORPORATE SOURCE: Department of Molecular Genetics, National Institute of Genetics, Shizuoka, 411-8540, Japan
SOURCE: Genes to Cells (2000), 5(8), 613-626
CODEN: GECEFL; ISSN: 1356-9597
PUBLISHER: Blackwell Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The genome DNA of **Escherichia** coli is folded into the nucleosome-like structure, often called a nucleoid, by the binding of several DNA-binding proteins. The authors previously detd. the specificity and affinity of DNA-binding for 12 species of the E. coli DNA-binding protein, and their intracellular concns. at various growth phases. The intracellular localization of these proteins in E. coli could be predicted from these data, but no attempt has been made thus far to directly observe the intracellular distribution of the DNA-binding proteins. The intracellular localization in **Escherichia** coli of 10 species of the nucleoid-assocd. protein, three components of the transcription app., and three components of the translation machinery was investigated by indirect immuno-fluorescence microscopy. The DNA-binding proteins could be classified into two groups. The group-I proteins, including the major nucleoid-structural proteins, H-NS, HU, IHF, StpA and Dps, are distributed uniformly within the entire nucleoid. In contrast, the group-II proteins, which are presumed to possess regulatory activities of DNA functions accumulate at specific loci within the nucleoid, forming 2 (SeqA), 3-4 (CbpA and CbpB) and 6-10 (Fis and IciA) immuno-stained dots.

Each immuno-stained dot may represent either the assocn. of a hundred to one thousand mols. of each DNA-binding protein at a specific locus of the genome DNA or the assembly of protein-assocd. DNA segments from different domains of the folded genome. Both the RNA polymerase core enzyme and the .sigma.70 subunit are mainly assocd. with the nucleoid, but the anti-.sigma.70 factor (Rsd) appears to be accumulated at the boundary between the nucleoid and the cytosol in the stationary-phase cells. Here, the authors show that the majority of Hfq is present in cytoplasm together with ribosomal proteins L7/L12 and **RMF**. Conclusion: The DNA-binding proteins of E. coli could be classified into two groups. One group proteins was distributed uniformly within the nucleoid, but the other group of proteins showed an irregular distribution, forming immuno-stained spots or clumps.

REFERENCE COUNT: 77 THERE ARE 77 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:296932 HCAPLUS

DOCUMENT NUMBER: 133:55777

TITLE: Growth phase-coupled changes of the ribosome profile in natural isolates and laboratory strains of Escherichia coli

AUTHOR(S): Wada, Akira; Mikkola, Riitta; Kurland, Charles G.; Ishihama, Akira

CORPORATE SOURCE: Department of Physics, Osaka Medical College, Osaka, 569-0084, Japan

SOURCE: Journal of Bacteriology (**2000**), 182(10), 2893-2899
CODEN: JOBAAY; ISSN: 0021-9193

PUBLISHER: American Society for Microbiology

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The growth phase-dependent change in sucrose d. gradient centrifugation patterns of ribosomes was analyzed for both lab. strains of **Escherichia** coli and natural isolates from the ECOR collection. All of the natural isolates examd. formed 100S ribosome dimers in the stationary phase, and **ribosome modulation factor** (**RMF**) was assocd. with the ribosome dimers in the ECOR strains as in the lab. strain W3110. The ribosome profile (70S monomers vs. 100S dimers) follows a defined pattern over time during lengthy culture in both the lab. strains and natural isolates. There are four discrete stages: (i) formation of 100S dimers in the early stationary phase; (ii) transient decrease in the dimer level; (iii) return of dimers to the max. level; and (iv) dissocn. of 100S dimers into 70S ribosomes, which are quickly degraded into subassemblies. The total time for this cycle of ribosome profile change, however, varied from strain to strain, resulting in apparent differences in the ribosome profiles when obsd. at a fixed time point. A correlation was noted in all strains between the decay of 100S ribosomes and the subsequent loss of cell viability. Two types of E. coli mutants defective in ribosome dimerization were identified, both of which were unable to survive for a prolonged period in stationary phase. The W3110 mutant, with a disrupted **rmf** gene, has a defect in ribosome dimerization because of lack of **RMF**, while strain Q13 is unable to form ribosome dimers due to a ribosomal defect in binding **RMF**.

REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 4 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:156757 HCAPLUS

DOCUMENT NUMBER: 132:275703

TITLE: Highly hydrophilic proteins in prokaryotes and eukaryotes are common during conditions of water deficit

AUTHOR(S): Garay-Arroyo, Adriana; Colmenero-Flores, Jose M.; Garciarrubio, Alejandro; Covarrubias, Alejandra A.

CORPORATE SOURCE: Departamentos de Biologia Molecular de Plantas, Instituto de Biotecnologia, Universidad Nacional Autonoma de Mexico, Morelos, 62250, Mex.

SOURCE: Journal of Biological Chemistry (2000), 275(8), 5668-5674
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The late embryogenesis abundant (LEA) proteins are plant proteins that are synthesized at the onset of desiccation in maturing seeds and in vegetative organs exposed to water deficit. Here, we show that most LEA proteins are comprised in a more widespread group, which we call "hydrophilins.". The defining characteristics of hydrophilins are high glycine content (>6%) and a high hydrophilicity index (>1.0). By data base searching, we show that this criterion selectively differentiates most known LEA proteins as well as addnl. proteins from different taxons. We found that within the genomes of Escherichia coli and Saccharomyces cerevisiae, only 5 and 12 proteins, resp., meet our criterion. Despite their deceivingly loose definition, hydrophilins usually represent <0.2% of the proteins of a genome. Addnl., we demonstrate that the criterion that defines hydrophilins seems to be an excellent predictor of responsiveness to hyperosmosis since most of the genes encoding these proteins in E. coli and S. cerevisiae are induced by osmotic stress. Evidence for the participation of one of the E. coli hydrophilins in the adaptive response to hyperosmotic conditions is presented. Apparently, hydrophilins represent analogous adaptations to a common problem in such diverse taxons as prokaryotes and eukaryotes.

REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 5 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:697463 HCAPLUS
DOCUMENT NUMBER: 132:61411
TITLE: Involvement of ppGpp, Ribosome Modulation Factor, and Stationary Phase-Specific Sigma Factor .sigma.S in the Decrease in Cell Viability Caused by Spermidine
AUTHOR(S): Apirakaramwong, Auayporn; Kashiwagi, Keiko; Raj, V. Samuel; Sakata, Kaori; Kakinuma, Yoshimi; Ishihama, Akira; Igarashi, Kazuei
CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, Chiba University, Inage-ku, Chiba, 263-8522, Japan
SOURCE: Biochemical and Biophysical Research Communications (**1999**), 264(3), 643-647
CODEN: BBRCA9; ISSN: 0006-291X
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Accumulation of spermidine in **Escherichia** coli causes a decrease in cell viability at the late stationary phase of cell growth. The mechanism underlying this effect has been studied. Spermidine accumulation caused an increase in the level of ppGpp and a decrease in **ribosome modulation factor** (**RMF**) and stationary phase-specific sigma factor .sigma.S, both of which are believed to be involved in cell viability. Transformation of E. coli with the gene for stringent factor, which synthesizes ppGpp, also caused a significant decrease in the levels of **RMF** and .sigma.S factor and a decrease in cell viability. The results strongly suggest that the accumulation of ppGpp is also involved in the decrease in cell viability and that the .sigma.S factor assists the function of **RMF** in cell viability. (c) 1999 Academic Press.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 6 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:363151 HCAPLUS
DOCUMENT NUMBER: 131:141772
TITLE: Modulation of the nucleoid, the transcription apparatus, and the translation machinery in bacteria for stationary phase survival
AUTHOR(S): Ishihama, Akira

CORPORATE SOURCE: Department of Molecular Genetics, National Institute of Genetics, Shizuoka, 411-8540, Japan
SOURCE: Genes to Cells (**1999**), 4(3), 135-143
CODEN: GECEFL; ISSN: 1356-9597
PUBLISHER: Blackwell Science Ltd.
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review with 70 refs. Upon sensing an impending satn. level of their population d., **Escherichia** coli cells enter into the stationary phase. We have identified structural and functional modulations of the nucleoid, the transcription app. and the translation machinery occurring during the transition from exponential growth to stationary phase. The major DNA-binding proteins, Fis, HU and Hfq, in the exponential-phase nucleoid are replaced by a single stationary-phase protein Dps, thereby compacting the nucleoid and ultimately leading to silencing of the DNA functions. The transcription app. is modified by replacing the major promoter recognition subunit, .sigma.70, with .sigma.s. A stationary-phase protein, Rsd (Regulator of Sigma D), with the binding activity of .sigma.70 is involved in the efficient replacement of .sigma. and/or the storage of unused .sigma.70. Changes in cytoplasmic compn. also differentially influence the activity of E.sigma.70 and E.sigma.s holoenzymes. Together, these effects may result in the preferential transcription of stationary-phase specific genes. The translation machinery is also modulated in stationary phase, by the formation of translationally incompetent 100S ribosomes. A small stationary-phase protein, **RMF** (**Ribosome Modulation Factor**), is involved in the dimerization of 70S ribosome monomers.

REFERENCE COUNT: 70 THERE ARE 70 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 7 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:699540 HCAPLUS
DOCUMENT NUMBER: 130:64778
TITLE: Enhancement of cell death due to decrease in Mg2+ uptake by OmpC (cation-selective porin) deficiency in ribosome modulation factor-deficient mutant
AUTHOR(S): Apirakaramwong, Auayporn; Fukuchi, Jun-Ichi; Kashiwagi, Keiko; Kakinuma, Yoshimi; Ito, Emiko; Ishihama, Akira; Igarashi, Kazuei
CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, Chiba University, Chiba, 263-8522, Japan
SOURCE: Biochemical and Biophysical Research Communications (**1998**), 251(2), 482-487
CODEN: BBRCA9; ISSN: 0006-291X
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Ribosome modulation factor** (**RMF**) is involved in stabilization of ribosomes during the transition from exponential growth to the stationary growth phase in **Escherichia** coli. A deficiency of **RMF** is known to reduce cell viability. Overaccumulation of spermidine also leads to a decrease in cell viability and to a decrease in the synthesis of **RMF** and of the cation-selective porin OmpC. Thus, a decrease in **RMF** levels may be involved in the decreased cell viability caused by excess spermidine. Because spermidine also influences the expression of OmpC, we examd. whether OmpC deficiency enhances the cell death caused by **RMF** deficiency. The ompC mutant by itself did not affect protein synthesis or cell viability, but the double **rmf** ompC mutant produced a much larger decrease in protein synthesis and cell viability than did the single **rmf** mutant. There was also a decrease in the amt. of ribosomes and in the Mg2+ content in the double **rmf** ompC mutant, and cell viability could be partially restored by the addn. of Mg2+ to the growth medium. **RMF** deficiency was found to inhibit the synthesis of another cation-selective porin OmpF. Thus, the double **rmf** ompC mutant is deficient in both OmpC and OmpF, which probably accounts for the pronounced decrease in Mg2+ uptake in this mutant. The results indicate that both **RMF** and Mg2+, acting through stabilization of ribosomes, are important for cell viability at the

stationary growth phase. (c) 1998 Academic Press.
REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 8 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:409208 HCAPLUS
DOCUMENT NUMBER: 129:119992
TITLE: Growth phase coupled modulation of Escherichia coli ribosomes
AUTHOR(S): Wada, Akira
CORPORATE SOURCE: Department of Physics, Osaka Medical College, Osaka, 569-0084, Japan
SOURCE: Genes to Cells (**1998**), 3(4), 203-208
CODEN: GECEFL; ISSN: 1356-9597
PUBLISHER: Blackwell Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Ribosomal modulation factor (**RMF**), a small basic protein, expresses transcriptionally in the stationary phase of **Escherichia** coli cells and binds to 50S ribosomal subunits. The **RMF** bound 70S ribosomes dimerize to form 100S particles that have no translational activity. In transferring the stationary cells to a fresh medium, the 100S particles release the **RMF** and dissoc. to active 70S. The interconversion of ribosomes between active 70S and inactive 100S by **RMF** is a cellular mechanism controlling translation.
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 9 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:585491 HCAPLUS
DOCUMENT NUMBER: 128:44390
TITLE: Complete genome sequence of Escherichia coli K-12
AUTHOR(S): Blattner, Frederick R.; Plunkett, Guy, III; Bloch, Craig A.; Perna, Nicole T.; Burland, Valerie; Riley, Monica; Collado-Vides, Julio; Glasner, Jeremy D.; Rode, Christopher K.; Mayhew, George F.; Gregor, Jason; Davis, Nelson Wayne; Kirkpatrick, Heather A.; Goeden, Michael A.; Rose, Debra J.; Mau, Bob; Shao, Ying
CORPORATE SOURCE: Lab. Genetics, Univ. Wisconsin-Madison, Madison, WI, 53706, USA
SOURCE: Science (Washington, D. C.) (1997), 277(5331), 1453-1462
CODEN: SCIEAS; ISSN: 0036-8075
PUBLISHER: American Association for the Advancement of Science
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The 4,639,221-base pair sequence of Escherichia coli K-12 is presented. Of 4288 protein-coding genes annotated, 38 percent have no attributed function. Comparison with five other sequenced microbes reveals ubiquitous as well as narrowly distributed gene families; many families of similar genes within E. coli are also evident. The largest family of paralogous proteins contains 80 ABC transporters. The genome as a whole is strikingly organized with respect to the local direction of replication; guanines, oligonucleotides possibly related to replication and recombination, and most genes are so oriented. The genome also contains insertion sequence (IS) elements, phage remnants, and many other patches of unusual compn. indicating genome plasticity through horizontal transfer.

L3 ANSWER 10 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:533270 HCAPLUS
DOCUMENT NUMBER: 127:215907
TITLE: Transcription factor .sigma.70 recognition of promoter of **ribosome modulation factor** gene of **Escherichia** coli
AUTHOR(S): Ding, Qingquan; Akira Ishihama
CORPORATE SOURCE: Wuhan Inst. Virol., Acad. Sin., Wuhan, 430071, Peop. Rep. China

SOURCE: Weishengwu Xuebao (**1997**), 37(1), 21-25
CODEN: WSHPA8; ISSN: 0001-6209
PUBLISHER: Kexue
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB The truncated DNA template carrying **ribosome modulation factor** (**rmf**) gene promoter was transcripted by **Escherichia** coli RNA polymerase holoenzyme (E.sigma.) reconstituted with core enzyme (.alpha.2.beta..beta.') and .sigma.70 or .sigma.38 in vitro. The initiation site of the transcription of **rmf** was confirmed with restriction endonucleases. The **rmf** promoters were recognized by E.sigma.70 but not by E.sigma.38. The suitable temp. for in vitro transcription was 37.degree., NaCl concn. was 50 mmol/L.

L3 ANSWER 11 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:95016 HCAPLUS
DOCUMENT NUMBER: 126:129142
TITLE: Studies on modulation and control of .sigma.-38 and rmf for the expression of some genes
AUTHOR(S): Ding, Qingquan; Shi, Bingming
CORPORATE SOURCE: Wuhan Inst. Virol., Chinese Acad. Scis., Wuhan, 430071, Peop. Rep. China
SOURCE: Weishengwu Xuebao (**1996**), 36(5), 344-350
CODEN: WSHPA8; ISSN: 0001-6209
PUBLISHER: Kexue
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB **Escherichia** coli wild type strain and rpoS and **rmf** mutant strains were cultured on the rich medium LB and limited component medium and the changes of the product of serial proteins was quantified with Western blot. The rpoS gene product .sigma.38 had no effect on the prodn. of rpoA, rpoB, rpoC, groE and tu gene, but inhibited crp and promoted **rmf** expression. The **ribosome modulation factor rmf** was inhibitive on crp and rpoS, and promotive on transcription of rpoA, rpoD, groEl, rho, ompA and tufA in LB condition but not obvious in EP condition.

L3 ANSWER 12 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:317577 HCAPLUS
DOCUMENT NUMBER: 125:8555
TITLE: Genetic manipulation of stationary-phase genes to enhance recombinant protein production in Escherichia coli
AUTHOR(S): Chou, Chih-Hsiung; Bennett, George N.; San, Ka-Yiu
CORPORATE SOURCE: Dep. Chem. Eng., Dep. Biochem., Cell Biol. Inst. Biosci., Bioeng., Rice Univ., Houston, TX, 77251-1892, USA
SOURCE: Biotechnology and Bioengineering (**1996**), 50(6), 636-642
CODEN: BIBIAU; ISSN: 0006-3592
PUBLISHER: Wiley
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Genetic manipulation of the host strain, by which cell physiol. could be modulated, was exploited to enhance recombinant protein prodn. in **Escherichia** coli. The effects of an inactivated stationary-phase gene (**rmf** or katF) on recombinant protein prodn. in strains with two different expression systems (the pH-inducible and the lac promoters) were investigated. An improvement of recombinant protein prodn. in the katF mutant at low growth rates was obsd. for both expression systems. A 4-fold and a 30% increase in the volumetric recombinant protein activity were obsd. for the pH-inducible and the lac promoter system, resp. The effect of the **rmf** mutation, on the other hand, depends on the expression system. A 2-fold increase in the volumetric recombinant protein activity was found for the pH-inducible promoter system, but there was no improvement for the lac promoter system. Improvement in culture performance for slow-growing cultures may have an impact on the design strategy of the host/vector system used in fed-batch cultures, where the

specific growth rate is usually slow. The information may also be useful for developing optimal host/vector gene expression systems for recombinant protein prodn.

L3 ANSWER 13 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:809228 HCAPLUS
DOCUMENT NUMBER: 123:193231
TITLE: **Ribosome modulation factor** : stationary growth phase-specific inhibitor of ribosome functions from **Escherichia** coli
AUTHOR(S): Wada, Akira; Igarashi, Kazuei; Yoshimura, Shoko; Aimoto, Saburo; Ishihama, Akira
CORPORATE SOURCE: Dep. Phys., Kyoto Univ., Kyoto, 606, Japan
SOURCE: Biochemical and Biophysical Research Communications (**1995**), 214(2), 410-17
CODEN: BBRCA9; ISSN: 0006-291X
PUBLISHER: Academic
DOCUMENT TYPE: Journal
LANGUAGE: English
AB **Ribosome modulation factor** (**RMF**) is an **Escherichia** coli protein assocd. with 100S ribosome dimers, which are formed at stationary growth phase or in slowly growing cells. **RMF** either purified from stationary-phase ribosomes or synthesized by a chem. method was examd. for its functions. By adding either natural or synthetic **RMF** to 70S ribosomes prepd. from both exponentially growing and stationary phase cells, 100S ribosome dimers were generated in a concn.-dependent manner. Protein synthesis in vitro was inhibited concomitantly with the formation of 100S ribosomes. The binding of aminoacyl-tRNA to ribosomes was inhibited in parallel. Apparently, **RMF** is a stationary phase-specific inhibitor of ribosome functions and 100S dimers are stored forms of ribosomes.

L3 ANSWER 14 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:747069 HCAPLUS
DOCUMENT NUMBER: 123:138441
TITLE: Decrease in cell viability due to the accumulation of spermidine in spermidine acetyltransferase-deficient mutant of Escherichia coli
AUTHOR(S): Fukuchi, Jun-ichi; Kashiwagi, Keiko; Yamagishi, Masahiro; Ishihama, Akira; Igarashi, Kazuei
CORPORATE SOURCE: Fac. Pharmaceutical Sci., Chiba Univ., Chiba, 263, Japan
SOURCE: Journal of Biological Chemistry (**1995**), 270(32), 18831-5
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Physiol. functions of spermidine acetyltransferase in E. coli were studied using the spermidine acetyltransferase (speG) gene-deficient mutant CAG2242 and the cloned speG gene. The growth of E. coli CAG2242 in the defined M9 medium was normal in the presence and absence of 0.5 mM spermidine. However, cell viability of E. coli CAG2242 at 48 h after the onset of growth decreased greatly by the addn. of 0.5 mM spermidine. The amt. of spermidine accumulated in the cells was .apprx.3-fold that in the cells grown in the absence of spermidine. Transformation of the cloned speG gene to E. coli CAG2242 recovered the cell viability. Decreased cell viability of E. coli CAG2242 was obsd. even when 0.5 mM spermidine was added at 24 h after the onset of growth. Accumulated spermidine functioned at the late stationary phase of growth. The accumulation of spermidine caused a decrease in protein synthesis but not in DNA and RNA synthesis at 28 h after the onset of growth. The synthesis of several kinds of proteins was particularly inhibited. They included ribosome modulation factor and OmpC protein. Since the ribosome modulation factor is essential for cell viability at the stationary phase of growth, the decrease in the protein was thought to be one of the reasons for the decrease in cell viability. The decrease in the ribosome modulation factor mainly occurred at the translational level.

L3 ANSWER 15 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:454968 HCAPLUS
DOCUMENT NUMBER: 121:54968
TITLE: Mutations in accessory DNA replicating functions alter the relative mutation frequency of herpes simplex virus type 1 strains in cultured murine cells
AUTHOR(S): Pyles, Richard B.; Thompson, Richard L.
CORPORATE SOURCE: Coll. Med., Univ. Cincinnati, Cincinnati, OH, 45267-0524, USA
SOURCE: Journal of Virology (1994), 68(7), 4514-24
CODEN: JOVIAM; ISSN: 0022-538X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The contribution of the herpes simplex virus type 1 (HSV-1)-encoded uracil DNA glycosylase (ZUNG), thymidine kinase (TK), and the dUTPase to the relative mutant frequency (**RMF**) of the virus in cultured murine cells was examd. A panel of HSV-1 mutants that lacked singly or doubly the UNG, TK, or dUTPase activity were generated by disruption of the enzyme coding regions with the **Escherichia** coli .beta.-galactosidase (.beta.-gal) gene in strain 17syn+. To establish a baseline **RMF** of strain 17syn+, the .beta.-gal gene was inserted into the UL3 locus. In all of the viruses, the .beta.-gal insert served as a phenotypic marker of **RMF**. A mutant plaque was identified by the lack of .beta.-gal activity and, in selected cases, pos. in situ hybridization for .beta.-gal sequences. Replication kinetics in NIH 3T3 cells demonstrated that all of the mutants replicated efficiency, generating stocks with equiv. titers. Two independently generated UL3-.beta.-gal viruses were examd. and established a baseline **RMF** of .apprx.0.5% in both NIH3T3 and LM TK- cells. Loss of dUTPase activity resulted in viruses with fivefold-increased **RMFs**, indicating that the HSV-1 dUTPase has an antimutator function. The **RMF** obsd. for the tk- viruses was reduced as much as 40-fold (**RMF** of 0.02%), suggesting that the viral TK is a mutator activity. The **RMF** of two independent UNG- viruses showed no significant difference from the baseline **RMF** in limited passage; however, following successive passage, the data suggested that UNG activity serves as an antimutator. These results have implications for the natural history of HZSV and the development of antiviral therapies.

L3 ANSWER 16 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:206606 HCAPLUS
DOCUMENT NUMBER: 118:206606
TITLE: Regulation of the **Escherichia** coli **rmf** gene encoding the **ribosome modulation factor**: Growth phase- and growth rate-dependent control
AUTHOR(S): Yamagishi, Masahiro; Matsushima, Hiroshi; Wada, Akira; Sakagami, Masayuki; Fujita, Nobuyuki; Ishihama, Akira
CORPORATE SOURCE: Dep. Mol. Genet., Natl. Inst. Genet., Shizouka, 411, Japan
SOURCE: EMBO Journal (1993), 12(2), 625-30
CODEN: EMJODG; ISSN: 0261-4189
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Ribosome modulation factor (RMF) is a protein specifically assocd. with 100S ribosome dimers which starts to accumulate in E. coli cells upon growth transition from exponential to stationary phase. The structural gene, rmf, encoding the 55 amino acid residue RMF protein has been cloned from the 21.8 min region of the E. coli genome and sequenced. While rmf was silent in rapidly growing exponential phase cells, a high level of transcription took place concomitantly with the growth transition to stationary phase. Under slow growth conditions, rmf was expressed even in exponential phase and there was an inverse relationship between the expression of rmf and the cell growth rate. Thus, the expression profile of rmf is contrary to those of genes for ribosomal components and ribosome-assocd. proteins constituting the translational app. The katF gene product, a stationary phase-specific .sigma. factor, was not required for the expression of rmf. Disruption of rmf resulted in loss of ribosome

dimers and redn. of cell viability during stationary phase.

L3 ANSWER 17 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1990:403039 HCAPLUS
DOCUMENT NUMBER: 113:3039
TITLE: Structure and probable genetic location of a " **ribosome modulation factor** " associated with 100S ribosomes in stationary-phase **Escherichia** coli cells
AUTHOR(S): Wada, Akira; Yamazaki, Yukiko; Fujita, Nobuyuki; Ishihama, Akira
CORPORATE SOURCE: Fac. Sci., Kyoto Univ., Kyoto, 606, Japan
SOURCE: Proceedings of the National Academy of Sciences of the United States of America (**1990**), 87(7), 2657-61
CODEN: PNASA6; ISSN: 0027-8424
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The decrease in overall translation activity occurring concomitantly with the transition from the exponential growth phase to the stationary phase of E. coli cells was accompanied by the appearance of 100S ribosomes (dimers of 70S ribosome monomers). Anal. of ribosomal proteins by the radical-free and highly reducing method of 2-dimensional gel electrophoresis indicated that a protein, designated protein E, was exclusively assocd. with 100S ribosomes. The results suggest that protein E is a ribosome modulation factor (RMF), which assocs. with 70S ribosomes and converts them to a dimeric form. A homol. search of the partial amino acid sequence of RMF using the DNA sequence data bases revealed that the rmf gene, which encodes RMF, is located next to the fabA gene at 21.8 min on the E. coli chromosome.

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=> s rmf and escherichia
        25 RMF
     53245 ESCHERICHIA
L5        6 RMF AND ESCHERICHIA

=> d 1-6

L5   ANSWER 1 OF 6  REGISTRY  COPYRIGHT 2003 ACS
RN   318229-00-4  REGISTRY
CN   DNA (Escherichia coli O157:H7 strain EDL933 gene ycbY plus gene uup
     plus gene pqiA plus gene pqiB plus gene ymbA plus gene rmf plus gene fabA
     plus gene Z1305) (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   GenBank AE005174 (Secondary GenBank Accession Number)
CN   GenBank AE005285
FS   NUCLEIC ACID SEQUENCE
MF   Unspecified
CI   MAN
SR   GenBank
LC   STN Files:   CA, CAPLUS, GENBANK, TOXCENTER

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***
               2 REFERENCES IN FILE CA (1957 TO DATE)
               2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L5   ANSWER 2 OF 6  REGISTRY  COPYRIGHT 2003 ACS
RN   197099-62-0  REGISTRY
CN   Protein E (Escherichia coli strain K12-MG1655 gene rmf) (9CI)
     (CA INDEX NAME)
OTHER NAMES:
CN   Ribosome modulation factor (Escherichia coli O157:H7 strain EDL933
     gene rmf)
CN   Ribosome modulation factor (Escherichia coli strain O157:H7 gene
     ECs1037)
FS   PROTEIN SEQUENCE
MF   C275 H448 N96 O78 S5
CI   MAN
SR   CA
LC   STN Files:   CA, CAPLUS, TOXCENTER

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***
               4 REFERENCES IN FILE CA (1957 TO DATE)
               4 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L5   ANSWER 3 OF 6  REGISTRY  COPYRIGHT 2003 ACS
RN   185652-41-9  REGISTRY
CN   DNA (Escherichia coli strain K12-MG1655 gene b0948 plus gene b0949
     plus gene pqiA plus gene pqiB plus gene b0952 plus gene rmf plus gene fabA
     plus gene b0955 plus flanks) (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   GenBank AE000197
CN   GenBank U00096 (Secondary GenBank Accession Number)
FS   NUCLEIC ACID SEQUENCE
MF   Unspecified
CI   MAN
SR   GenBank
LC   STN Files:   CA, CAPLUS, GENBANK

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***
               1 REFERENCES IN FILE CA (1957 TO DATE)
               1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L5   ANSWER 4 OF 6  REGISTRY  COPYRIGHT 2003 ACS
RN   182848-33-5  REGISTRY
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CN **DNA (Escherichia coli clone 222 gene pqiA plus gene pqiB plus gene rmf plus gene ompA plus gene sulA plus flanks) (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Deoxyribonucleic acid (Escherichia coli clone 222 gene pqiA plus gene pqiB plus gene rmf plus gene ompA plus gene sulA plus 5'- and 3'-flanking region fragment)**
OTHER NAMES:
CN GenBank AB001340 (Secondary GenBank Accession Number)
CN GenBank D90733
FS NUCLEIC ACID SEQUENCE
MF Unspecified
CI MAN
SR GenBank
LC STN Files: CA, CAPLUS, GENBANK

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***
1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L5 ANSWER 5 OF 6 REGISTRY COPYRIGHT 2003 ACS
RN 147277-65-4 REGISTRY
CN **Protein formation interference factor RMF (Escherichia coli clone pT6 gene rmf) (9CI)** (CA INDEX NAME)
OTHER NAMES:
CN **Ribosome modulation factor (Escherichia coli strain W3110 clone pT6 gene rmf)**
FS PROTEIN SEQUENCE
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS

RELATED SEQUENCES AVAILABLE WITH SEQLINK

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***
2 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L5 ANSWER 6 OF 6 REGISTRY COPYRIGHT 2003 ACS
RN 147277-64-3 REGISTRY
CN **DNA (Escherichia coli clone pT6 gene rmf plus flanks) (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Deoxyribonucleic acid (Escherichia coli clone pT6 gene rmf plus 5'- and 3'-flanking region fragment)**
OTHER NAMES:
CN **DNA (Escherichia coli strain W3110 clone pT6 ribosome modulation factor gene rmf plus 5'- and 3'-flanking region fragment)**
CN GenBank S55660
FS NUCLEIC ACID SEQUENCE; SECONDARY GENBANK ACCESSION NUMBER
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***
1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

=> d all

L2 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:486245 HCAPLUS
DOCUMENT NUMBER: 137:62263
TITLE: Method for increasing Escherichia coli fermentation productivity
INVENTOR(S): **Imaizumi, Akira**; Usuda, Yoshihiro; Sugimoto, Shinichi
PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Japan
SOURCE: Eur. Pat. Appl., 17 pp.
CODEN: EPXXDW
DOCUMENT TYPE: **Patent**
LANGUAGE: English
INT. PATENT CLASSIF.:
MAIN: C12P013-08
SECONDARY: C12P021-00
CLASSIFICATION: 16-1 (Fermentation and Bioindustrial Chemistry)
Section cross-reference(s): 3
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1217076	A1	20020626	EP 2001-130740	20011221
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2001006255	A	20020820	BR 2001-6255	20011221
JP 2002306191	A2	20021022	JP 2001-389378	20011221
US 2002155556	A1	20021024	US 2001-23711	20011221

PRIORITY APPLN. INFO.: JP 2000-390758 A 20001222

ABSTRACT:
A method is provided to improve the fermn. efficiency or prodn. rate of L-amino acids by Escherichia coli by site-directed disruption of the **rmf** gene.

SUPPL. TERM: Escherichia **rmf** gene fermn
INDEX TERM: Proteins
ROLE: REM (Removal or disposal); PROC (Process)
(**RMF**; method for increasing Escherichia coli fermn. productivity)
INDEX TERM: Gene, microbial
ROLE: BSU (Biological study, unclassified); BIOL (Biological study)
(for acid phosphatase; method for increasing Escherichia coli fermn. productivity)
INDEX TERM: Escherichia coli
Fermentation
Genetic engineering
Growth, microbial
Molecular cloning
(method for increasing Escherichia coli fermn. productivity)
INDEX TERM: Proteins
ROLE: BMF (Bioindustrial manufacture); BIOL (Biological study); PREP (Preparation)
(method for increasing Escherichia coli fermn. productivity)
INDEX TERM: Gene, microbial
ROLE: REM (Removal or disposal); PROC (Process)
(**rmf**; method for increasing Escherichia coli fermn. productivity)
INDEX TERM: Mutagenesis
(site-directed; method for increasing Escherichia coli fermn. productivity)
INDEX TERM: 56-87-1P, L-Lys, preparation
ROLE: BMF (Bioindustrial manufacture); BIOL (Biological study); PREP (Preparation)
(method for increasing Escherichia coli fermn.

productivity)

INDEX TERM: 9001-77-8, Acid phosphatase
ROLE: BSU (Biological study, unclassified); BIOL (Biological study)
(method for increasing Escherichia coli fermn. productivity)

INDEX TERM: 439054-61-2, 1: PN: EP1217076 SEQID: 3 unclaimed DNA
439054-62-3, 2: PN: EP1217076 SEQID: 4 unclaimed DNA
439054-63-4, 3: PN: EP1217076 SEQID: 1 unclaimed DNA
439054-64-5, 4: PN: EP1217076 SEQID: 2 unclaimed DNA
ROLE: PRP (Properties)
(unclaimed nucleotide sequence; method for increasing Escherichia coli fermn. productivity)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD.

REFERENCE(S):
(1) Chih-Hsiung, C; BIOTECHNOLOGY AND BIOENGINEERING 1996, V50(6), P636
(2) Wada, A; JOURNAL OF BACTERIOLOGY 2000, V182(10), P2893
HCAPLUS